**Printed Pages:02** **Sub Code: KEE-602**

**Paper Id:** 237020 **Roll No.** | | | | | | | | | | |

**B.TECH**
**(SEM VI) THEORY EXAMINATION 2022-23**
**MICROPROCESSOR AND MICROCONTROLLER**

***Time: 3 Hours*** ***Total Marks: 100***

**Note:** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

**1. Attempt *all* questions in brief. 2 x 10 = 20**

(a) What is the meaning of ALE signal?

(b) The content of the accumulator are 93H and contents of register C are B7H. Add both contents and determine the sign, carry and zero flag status.

(c) Define the term RISC and CISC.

(d) What are the advantage of using memory segmentation?

(e) What is BSR mode?

(f) What do you mean by RS-232C?

(g) Show the status of CY, AC and P flag after addition of 56H & 95H in the following instruction.
MVI A, 56H
MVI B, 95H
ADD B

(h) What is the difference between microprocessor and microcontroller?

(i) What do you mean by ARM?

(j) What is PSW?

**SECTION B**

**2. Attempt any *three* of the following: 10x3=30**

(a) Draw the internal architecture of 8085. Also explain flag register of 8085.

(b) Draw the pin diagram of 8086 and also discuss about BIU and EU.

(c) Explain 8237 DMA controller in detail.

(d) State the features of 8051 and also draw the block diagram of microcontroller.

(e) What do you mean by assembly language programming? What is the function of JUMP and CALL instruction?

**SECTION C**

**3. Attempt any *one* part of the following: 10x1=10**

(a) Discuss the various addressing modes of 8085 in detail.

(b) Explain the classification of the instruction set of 8085 microprocessor with suitable examples.

**4. Attempt any *one* part of the following: 10x1=10**

(a) Explain minimum and maximum operating modes of 8086 with timing diagram.

(b) Draw and explain the internal block diagram of 8086.

**5. Attempt any *one* part of the following: 10x1=10**

(a) Draw and explain block diagram of IC-8253/54.

(b) Explain 8255 PPI in detail. And discuss its mode 1 and mode 2 operation.

**6. Attempt any *one* part of the following: 10x1=10**

(a) Draw and explain the pin configuration of 8051.

(b) Draw the internal memory organization of 8051 and also Explain register banks and stack.

**7. Attempt any *one* part of the following: 10x1=10**

(a) Discuss the different types of assembler directives of 8051 microcontroller.

(b) What is the difference between PIC and ARM processor? Explain their application areas.